

AMENDMENTS TO THE CLAIMS

The below listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) A method of boring a tunnel by means of an earth pressure balance tunnel boring machine, comprising the injection at [[the]]a cutting head of the earth pressure balance tunnel boring machine of a foamed aqueous surfactant solution and an aqueous solution of a water-soluble acrylic acid-based polymer.
2. (Currently Amended) [[A]]The method according to claim 1, in which the foamed aqueous surfactant solution and the aqueous solution of a water-soluble acrylic acid-based polymer are added as a single material.
3. (Currently Amended) A foaming solution for use with earth pressure balance tunnel boring machines, comprising an aqueous solution of an acrylic acid-based polymer and an anionic surfactant selected from sulphate esters, sulphate ethers and sulphonates, whercin the acrylic acid-based polymer has a molecular weight from 2,000 to 20,000.
4. (Currently Amended) [[A]]The foaming solution according to claim 3, in which the surfactant is a lauryl ether sulphate, whose ether portion consists of two oxyethyl units maximum.
5. (Currently Amended) [[A]]The foaming solution according to claim 3, whercin the surfactant comprises a polyalkylene alkyl ether sulphate.
6. (Currently Amended) [[A]]The foaming solution according to claim 5, whercin the polyalkylene oxide chain of the polyalkylene alkyl ether sulphate has an average chain length of from 1-3 alkylene oxide units.
7. (Currently Amended) [[A]]The foaming solution according to claim 3, wherein the surfactant comprises at least one of α -olefin sulphonate, C_{8-22} fatty alcohol sulphate salts, C_{8-22} fatty alcohol ether sulphate salts or mixtures thereof.

8. (Currently Amended) [[A]]The foaming solution according to claim 3, wherein the surfactant comprises monoisopropanol ammonium lauryl alcohol sulphate.

9. (Currently Amended) [[A]]The foaming solution according to claim 7, wherein the C₈₋₂₂ fatty alcohol ether sulphate salts comprise at least one of:

- a. lauryl alcohol;
- b. an ether formed with an alkylene oxide chain of from 1 to 3 alkylene oxide units;
or
- c. a salt forming cation selected from alkali metal, magnesium and alkanolamine.

10. (Cancelled)

11. (Currently Amended) [[A]]The foaming solution according to claim 3, wherein the acrylic acid-based polymer has a molecular weight from 2,000 to 10,000.

12. (Currently Amended) [[A]]The foaming solution according to claim 3, wherein the acrylic acid-based polymer is derived from acrylic acid.

13. (Currently Amended) [[A]]The foaming solution according to claim 3, wherein the acrylic acid-based polymer is a salt.

14. (Currently Amended) [[A]]The foaming solution according to claim 13, wherein the acrylic acid-based polymer salt comprises a monovalent cation that is at least one of sodium, potassium, ammonium, tertiary amine, quaternary amine or mixtures thereof.

15. (Currently Amended) [[A]]The method according to claim 1, wherein the foamed aqueous surfactant solution and the aqueous solution of water-soluble acrylic acid-based polymer are added separately.

16. (Currently Amended) [[A]]The method according to claim 1, wherein the foamed aqueous surfactant solution is injected at a rate of from 0.2 to 4 Kg dry material per cubic meter of excavated soil.

17. (Currently Amended) [[A]]The method according to claim 1, wherein the foamed aqueous surfactant solution is injected at a rate of from 0.5 to 2 Kg dry material per cubic meter of excavated soil.

18. (Currently Amended) [[A]]The method according to claim 1, wherein the acrylic acid-based polymer is injected at a rate of from 0.05 to 2 Kg dry polymer per cubic meter of excavated soil.

19. (Currently Amended) [[A]]The method according to claim 1, wherein the acrylic acid-based polymer is injected at a rate of from 0.1 to 1 Kg dry polymer per cubic meter of excavated soil.

20. (Currently Amended) [[A]]The method according to claim 1, wherein the acrylic acid-based polymer is injected at a rate of from 0.2 to 0.5 Kg dry polymer per cubic meter of excavated soil.